重庆平伟实业股份有限公司
CHONGQING PINGWEI ENTERPRISE CO.,LTD

PW03N10KE

100V N-Channel MOSFET

3A 100V；$R_{DS(ON)typ}$=69mΩ@10V，$R_{DS(ON)typ}$=84mΩ@4.5V

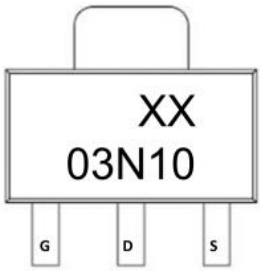
FEATURE

- Trench Technology Power MOSFET
- Low $R_{DS(ON)}$
- Low Gate Charge
- Low Gate Resistance

Application

- Power Switching Application

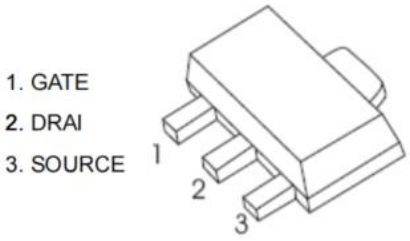
MARKING:



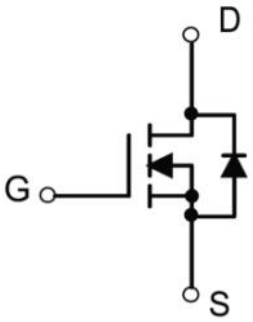
03N10 = Device Code

XX = Date Code

SOT-89



Schematic diagram



ABSOLUTE MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Parameter		Symbol	Value	Unit
Drain-Source Voltage		V_{DS}	100	V
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current(1)	T_C=25℃	I_D	6	A
Continuous Drain Current(5)	T_A=25℃	I_D	3	A
Pulsed Drain Current(2)		I_{DM}	12	A
Power Dissipation(4)	T_C=25℃	P_D	2.7	W
Power Dissipation(5)	T_A=25℃	P_D	1.5	W
Thermal Resistance from Junction to Ambient(5)		$R_{\theta JA}$	80	℃/W
Thermal Resistance from Junction to Case		$R_{\theta JC}$	45	℃/W
Junction Temperature		T_J	150	℃
Storage Temperature		T_{STG}	-55~ +150	℃

MOSFET ELECTRICAL CHARACTERISTICS(T_a=25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
OFF CHARACTERISTICS						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =250μA	100			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =80V,V_{GS} = 0V			1	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±20V, V_{DS} = 0V			±100	nA
ON CHARACTERISTICS(3)						
Gate threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	1	2	3	V
Drain-source on-resistance	$R_{DS(on)}$	V_{GS} =10V, I_D =3A		68	140	mΩ
		V_{GS} =4.5V, I_D =3A		84	150	
Forward tranconductance	g_{FS}	V_{DS} =10V, I_D =3A	3			S
DYNAMIC CHARACTERISTICS						
Input Capacitance	C_{iss}	V_{DS} =50V,V_{GS} =0V,f=1MHz		790		pF
Output Capacitance	C_{oss}			31		
Reverse Transfer Capacitance	C_{rss}			28		
Gate Resistance	Rg	V_{DS} = 0V, V_{GS} = 0V, f = 1MHz		1.3		Ω
SWITCHING CHARACTERISTICS						
Turn-on delay time	$t_{d(on)}$	V_{GS}=10V,V_{DD}=50V, R_L=17Ω,R_G=1Ω		17		ns
Turn-on rise time	t_r			7		
Turn-off delay time	$t_{d(off)}$			35		
Turn-off fall time	t_f			6		
Total Gate Charge	Qg	V_{DS} =50V,I_D =3A,V_{GS} =10V		18		nC
Gate-Source Charge	Qgs			3		
Gate-Drain Charge	Qgd			3.6		
SOURCE-DRAIN DIODE CHARACTERISTICS						
Diode Forward voltage(3)	V_{SD}	V_{GS} =0V, I_S=3A			1.2	V

Notes:

1.The maximum current rating is limited by package.And device mounted on a large heatsink

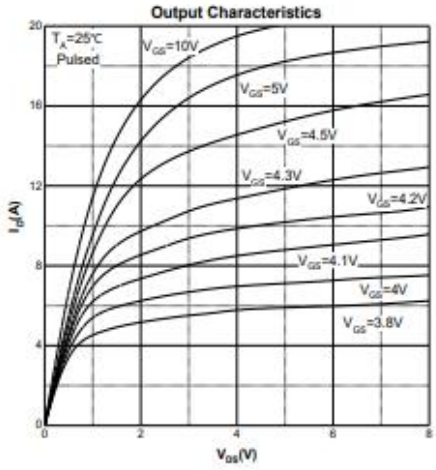
2.Pulse Test : Pulse Width ≤ 10μs, duty cycle ≤ 1%.

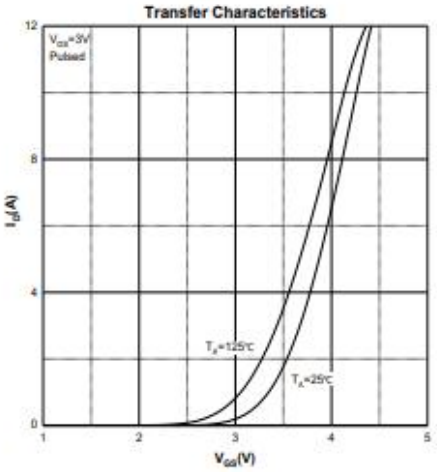
3.Pulse Test : Pulse Width ≤ 300μs, duty cycle ≤ 2%.

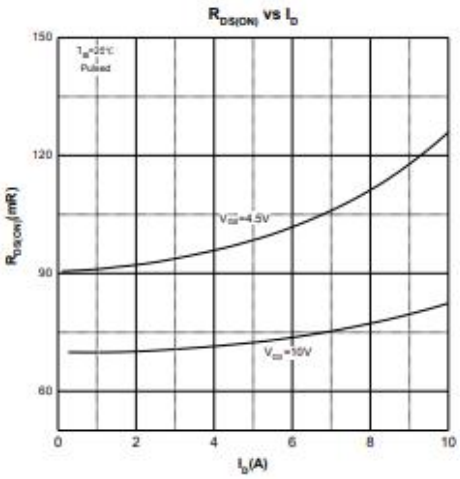
4.The power dissipation PD is limited by $T_{J(MAX)}$ = 150°C.And device mounted on a large heatsink

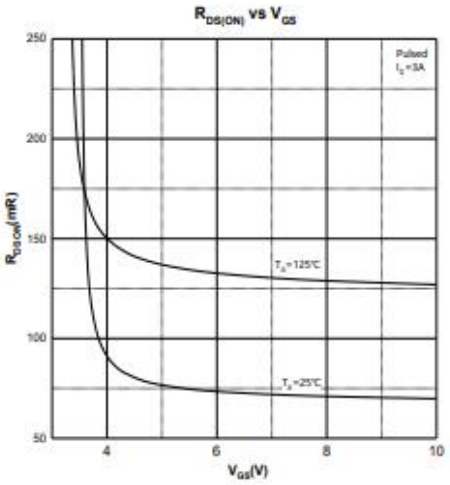
5.Device mounted on 1in2 FR-4 board with 2oz. Copper, in a still air environment with T_A =25°C.

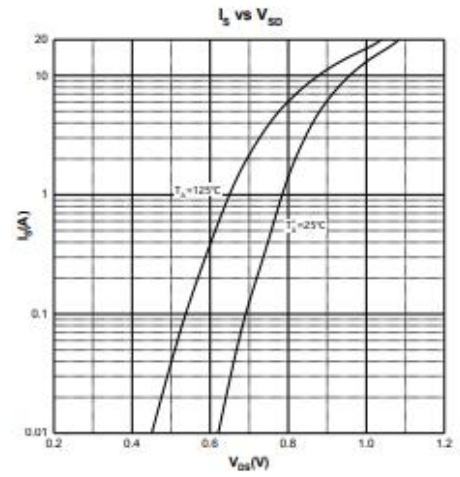
Typical Electrical and Thermal Characteristics

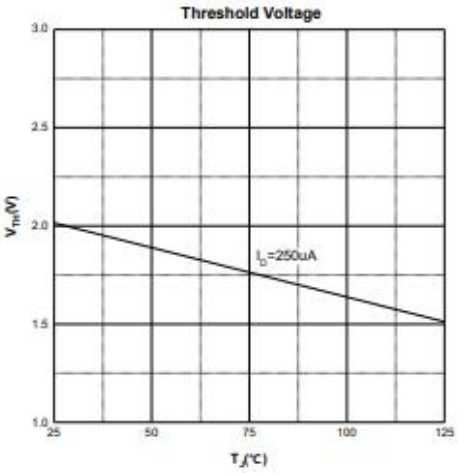




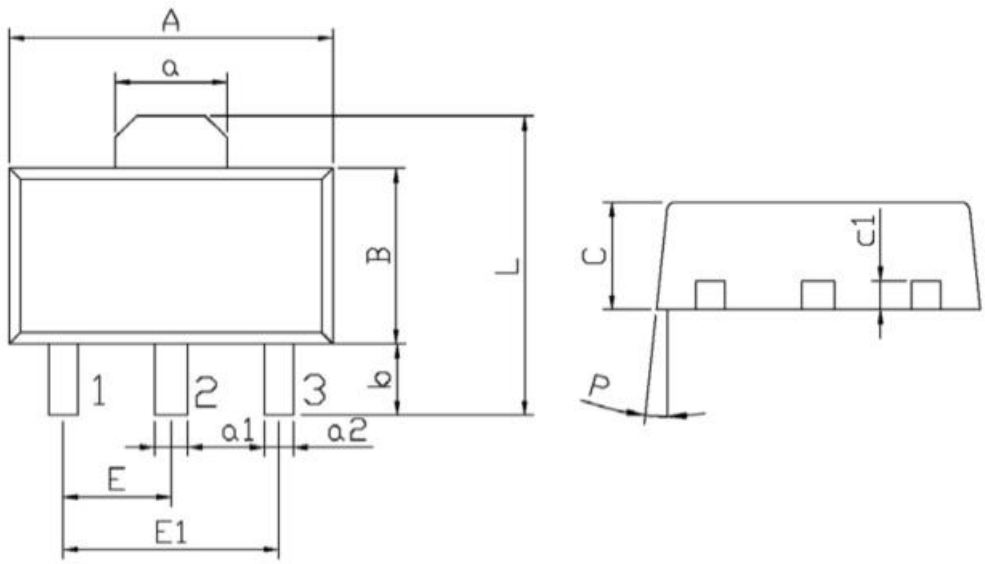








SOT-89 Package Information



Symbol	Dimensions In Millmeters		Symbol	Dimensions In Millmeters	
	Min	Max		Min	Max
A	4.4	4.7	a1	0.36	0.56
B	2.35	2.65	a2	0.30	0.50
L	3.878	4.478	C	1.40	1.70
a	1.45	1.65	c1	0.35	0.50
E	1.40	1.60	P	6°	
E1	2.80	3.20			
b	0.80	1.20			

单位：mm